

# **MARYLAND'S COLLEGE AND CAREER- READY STANDARDS FOR UNIFIED ENGLISH BRAILLE**

**Braille, Formatting, and Tactile Graphics  
Alignment by Grade  
Updated 2015**



# BRAILLE AND FORMATTING FOR ENGLISH/LANGUAGE ARTS CHARTS BY GRADE LEVEL AND COURSE

*This document contains braille and tactile graphics organized by grade level or course. This is not meant to be an all-inclusive list of all Unified English Braille Code and formatting/tactile graphics available.*

## Key

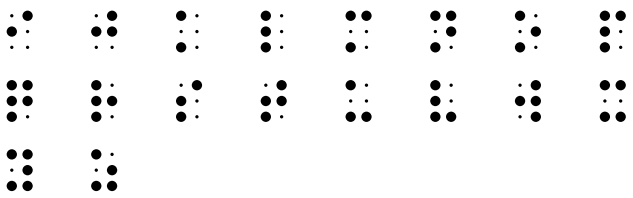
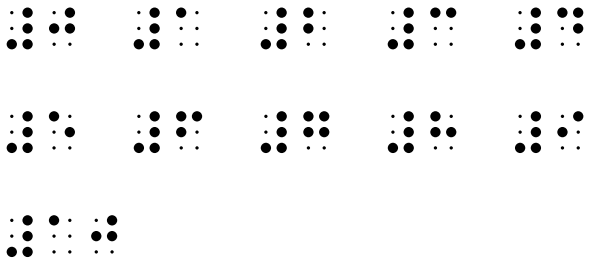
CC - Task Force-designated braille contractions based upon the Common Core

BOP - Task force-designated braille contractions based upon "Building on Patterns," Primary Braille Literacy Program

## Pre Kindergarten

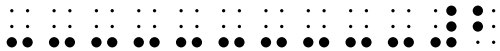
### Unified English Braille Code

	Print	Braille
Capital sign	N/A	⠠
Capital sign for whole word	N/A	⠠⠠
Capital sign for passage Opening	N/A	⠠⠠⠠
Closing		⠠⠠
Numeric indicator	N/A	⠠
Period	.	⠠
Question mark	?	⠠
Transcriber's note sign Opening	N/A	⠠⠠⠠
Closing		⠠⠠⠠
Exclamation point	!	⠠
Italic sign (single letter)	N/A	⠠⠠
Italic sign (word)	N/A	⠠⠠
Italic sign (passage) Opening	N/A	⠠⠠⠠
Closing		⠠⠠
Alphabet	a b c d e f g h	⠠⠠⠠⠠⠠⠠⠠⠠

	i j k l m n o p q r s t u v w x y z	
Literary numbers 0-10	0 1 2 3 4 5 6 7 8 9 10	
First Name	N/A	

## Pre Kindergarten

### Formatting

	Print	Braille
Print page numbers	N/A	Top, right corner 1, a1, b1
Braille page numbers	N/A	Bottom, right corner
New print page indicator	N/A	
Title page	N/A	Braille titles are sometimes centered on the page, but they can also be located along the spine.

## Kindergarten

## Unified English Braille Code

	Print	Braille
Long dash	----	⠈⠈⠈⠈
Ellipsis	...	⠠⠠⠠
Grade 1 Mode	N/A	
Symbol/letter		⠠
Word		⠠⠠
Passage		⠠⠠⠠⠠
Terminator		⠠⠠
Plus (in a non-mathematical context)	+	⠠⠠
Minus (in a non-mathematical context)	-	⠠⠠
Equals (in a non-mathematical context)	=	⠠⠠
Transcriber's note	N/A	
Opening		⠠⠠⠠
Closing		⠠⠠⠠
Alphabet words (BOP)	but can do every from go have just knowledge like more not people quite rather so that us very will it you as	⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠
Contractions (BOP)	and of for the with	⠠⠠⠠⠠⠠

### Formatting/Tactile Graphic

	<b>Literary Sign</b>	<b>Braille</b>
Title page: illustrator	N/A	According to <i>Braille Formats</i> , the illustrator is omitted from the title page so the name may not always be present.
Graphic organizers	N/A	See <i>Braille Formats</i>
Maps	N/A	See Appendix C: Resources

# Grade 1

## Unified English Braille Code

	Print	Braille
Hyphen	-	⠤
Comma	,	⠠
Ampersand	&	⠠ ⠠
Quotation marks		
Opening non-specific	"	⠠
Closing non-specific	"	⠠
Opening specific	'	⠠ ⠠
Closing specific	'	⠠ ⠠
Other specific quotation marks		Refer to <i>The Rules of UEB, Second Edition</i> (section 7.6)
Colon	:	⠠
Apostrophe	'	⠠
Modifiers	Acute - Fiancée	⠠ ⠠
	Umlaut - spätzle	⠠ ⠠
	Grave – très chic	⠠ ⠠
	Cedilla - François	⠠ ⠠
	Tilde - Señorita	⠠ ⠠
Prefixes (CC)	con dis	⠠ ⠠
Suffixes (CC)	ful ity less	⠠ ⠠ ⠠
	ment ness tion	⠠ ⠠ ⠠
Common consonant digraphs (CC)	gh	⠠

Common consonant digraphs <b>(CC and BOP)</b>	ch sh th wh	⠠⠉⠢ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠
Prepositions <b>(CC)</b>	above below behind beneath beside between beyond	⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠
Contractions <b>(BOP)</b>	about across after afternoon again against almost already also always ar be because before blind braille cannot character child children could  day ea ed either en enough er ever father first friend good great had here  him himself his in ing its know letter little lord many mother much must myself name neither one  ou ought out ow paid part question quick right said shall should some spirit st still such their there these this	⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠  ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠  ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠  ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠⠠⠠ ⠠⠠⠠⠠

	those through time today	
	together tomorrow tonight	
	under upon was were	
	where which whose word	
	work world would young	
	your yourself	

## Grade 1

### Formatting/Tactile Graphics

	Print	Braille
Headings	N/A	<i>See Braille Formats</i>
Table of contents: guide dots	N/A	
Boldface indicator	N/A	   
Underline indicator	N/A	   
Script indicator	N/A	

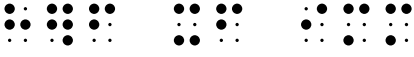




















Word		⠠⠠⠠⠠⠠⠠
Passage		⠠⠠⠠⠠⠠⠠⠠⠠
Terminator		⠠⠠⠠⠠⠠⠠⠠⠠⠠
Color indicator		Refer to <i>The Rules of UEB, Second Edition (section 9.5)</i>

## Grade 2

## Unified English Braille Code

	Print	Braille
Dash	--	
Long dash	----	
Semicolon	;	
Parentheses Opening	(	
Closing	)	
Capital Modes Terminator	N/A	
Reference indicator	N/A	
Simple numeric fraction line (in a non- mathematical context)	½ (vertical or nearly vertical)	
General fraction line (in a non- mathematical context)	4/5 (linear form)	
General fraction indicator Opening	N/A	
Closing		
Contractions <b>(BOP)</b>		
	according ance	
	afterward although	
	altogether bb	
	conceive conceiving	
	deceive deceiving declare	
	declaring ence ff gg	

	<p>herself itself immediate</p> <p>necessary ong</p> <p>oneself ourselves ound</p> <p>ount paid perceive</p> <p>perceiving perhaps</p> <p>receive receiving</p> <p>rejoice rejoicing</p> <p>sion thyself themselves</p> <p>work yourselves</p>	       
Website address/hyperlink	www.google.com	 <p>Refer to <i>The Rules of UEB, Second Edition</i> (section 11.10)</p>
Underscore	–	
Hash	#	
Commercial at	@	
Slash	/	
Backslash	\	
Trademark	™	
Copyright	©	
Dollar	\$	
Diacritical marks		
Stress	N/A	
Primary		
Secondary		

Breve	ă	
Cedilla	ç	
Circumflex	â	
Crossbar	ğ	
Ligatures, tied letters	s h	
Macron	ū	
Tilde	~ ñ	
Umlaut, diaeresis	ä	
Acute accent	á	
Grave accent	à	
Schwa	ə	

## Grade 2

### Formatting

	Print	Braille
Bullet	•	
Paragraph indentation	N/A	Two spaces
Box lines Top  Bottom	N/A	
Reading captions	N/A	Written as Transcriber's Notes
Reading subheadings	N/A	<i>See Braille Formats</i>

Reading columned material	N/A	<i>See Braille Formats</i>
Dictionary skills: locating guide words	N/A	N/A
Using a glossary and index	N/A	N/A
Foreign language		Refer to <i>The Rules of UEB, Second Edition (section 13)</i>

## Grade 3

### Unified English Braille Code




	Print	Braille
Brackets Opening Closing	[ ]	  
Brace (Curly Bracket) Opening Closing	{ }	  
Ditto	"	
Multiplication (in a non-mathematical context)	×	
Division (in a non-mathematical context)	÷	

### Formatting


	Print	Braille
Nemeth Code Indicators Begin  End	N/A	  
Poetry Stanzas Numbered lines Formats (shape)	N/A	<i>See Braille Formats</i>

## Grade 4




### Unified English Braille Code

Degree	°	
Asterisk	*	
Paragraph	¶	

## Grade 6

Percent	%	
---------	---	---

## Grade 11

Section	§	
Dagger	†	
Double Dagger	‡	

### Formatting
















NONE

## BRAILLE AND TACTILE GRAPHICS FOR MATHEMATICS CHARTS BY GRADE LEVEL AND COURSE

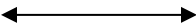





*This document contains braille and tactile graphics organized by grade level or course. This is not meant to be an all-inclusive list of all Nemeth Braille Code and tactile graphics available.*

## Pre Kindergarten

## Nemeth Braille Code

	Mathematical Sign	Nemeth Symbol
Numeric indicator	N/A	
Read numbers 0-10	0 1 2 3 4 5 6 7 8 9 10	          
Punctuation indicator	1.	
Transcriber's note symbols Opening Closing	N/A	 

## Tactile Graphics

	Mathematical Sign	Braille
Number line		Tactile graphic
Square		Tactile graphic
Circle		Tactile graphic
Triangle		Tactile graphic
Rectangle		N/A
Objects	Example: picture of a 	Tactile graphic Represented with simple, solid shapes (Example: rectangle)

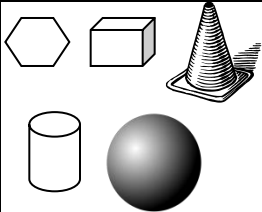


## Kindergarten

### Nemeth Braille Code

	Mathematical Sign	Nemeth Symbol
Hyphen	-	$\cdot\cdot$
Read and write numbers 0-20	0-20	$\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot$
Mathematical comma	,	$\cdot\cdot$
Ellipse	2, 3, 4, ...	$\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot$
Plus	+	$\cdot\cdot$
Minus	-	$\cdot\cdot$
Equal to	=	$\cdot\cdot\cdot\cdot\cdot\cdot$
Write equations in horizontal format	$1+2 = 3$	$\cdot$

### Tactile Graphics

	Mathematical Sign	Braille
Hundreds chart	N/A	Adapted Manipulative or Tactile Graphic with Nemeth Braille Code Numbers
Hexagon, cube, cone, cylinder, sphere		Tactile graphic

# Grade 1

## Nemeth Braille Code






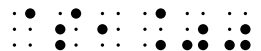

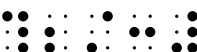


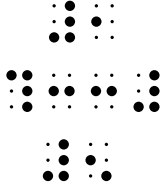

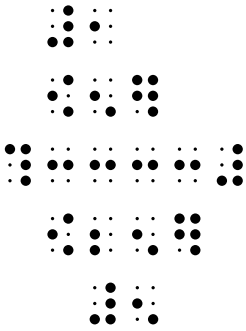
	Mathematical Sign	Braille
Numbers 21-120	32 33 99 100	
Tally marks		
Shape indicator	N/A	
Horizontal equations with question mark or blank space for omission	$4 + ? = 7$ $4 + \quad = 7$	
Horizontal equations with blank line for omission	$4 + \_ = 7$	
Horizontal equations with box/square for omission	$4 + \square = 7$	
Spatial arrangements of addition and subtraction Separation line extending one space on each side of arrangement	$\begin{array}{r} 40 \\ +23 \\ \hline 63 \end{array}$	
Carried number indicator	$\begin{array}{r} 1 \\ 47 \\ +23 \\ \hline 70 \end{array}$	
Less than	$2 < 4$	
Greater than	$5 > 1$	

## Tactile Graphics

	Mathematical Sign	Braille
Rectangular prisms, trapezoid, half-circle, quarter circle		Tactile graphics





## Grade 2

### Nemeth Braille Code

	Mathematical Sign	Nemeth Symbol
Numbers to 1000	500 875 1000	
Colon	:	
Decimal point	.	
Time	3:00	
Money	Pictures of currency and coins	Penny – pn, nickel – nk, dime – dm, quarter – qr
Cent sign	5¢	
Dollar sign	\$1.00	
Reading a key to a graph	N/A	Contains Nemeth Braille Code and sometimes tactile graphics
Horizontal fraction bar	—	
Simple fraction with horizontal bar	$\frac{2}{3}$	
Diagonal fraction bar	/	
Simple fraction with a diagonal bar	2/3	
Read spatial arrangements of fractions	$\frac{1}{5}$	
Termination indicator	N/A	
Cancellation indicator (used in examples of spatial arrangements, not for computation)	$\frac{1}{\cancel{5}} \frac{25}{5}$	




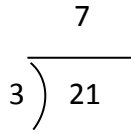
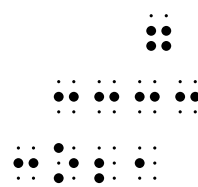
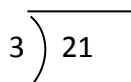
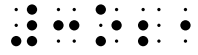

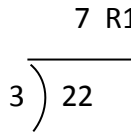
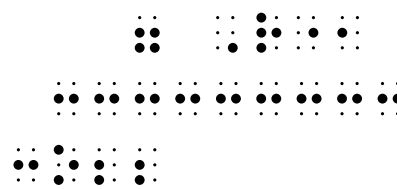




## Grade 2

## Tactile Graphics



	Mathematical Sign	Nemeth Symbol
Ruler (nearest inch, centimeter, foot, yard, meter)	N/A	Tactile graphics
Clocks (nearest 5 minutes)	N/A	Tactile graphic
Dot (Line) plot (read and create)	Number line with Xs plotted horizontally above numbers for data points	Number line is a tactile graphic with a full cell to represent each X for plotted points 
Picture graph (read and create)	N/A	Lines created as a tactile graphic with Nemeth Braille Code labels. A full cell represents each picture 
Bar graph (read and create)	N/A	Tactile graphic with Nemeth Braille Code labels
Quadrilaterals, pentagons	 	Tactile graphic

## Grade 3

## Nemeth Braille Code

	Mathematical Sign	Nemeth Symbol
Multiplication cross	<b>x</b>	
Multiplication dot	<b>•</b>	
Division	<b>÷</b>	
Division cage (spatial format)		
Division cage (linear format)		
Multipurpose indicator	<b>N/A</b>	
Remainder		
Parentheses	<b>( 5, 10 )</b>	
English letter indicator	<b>N/A</b>	
Picture graph with 2:1 scale (read and create)	<b>N/A</b>	<p>Lines created as a tactile graphic with Nemeth Braille Code labels. A full cell represents each whole picture</p>  <p>Dots 4, 5, 6 represent each half picture</p> 

## Tactile Graphics

	Mathematical Sign	Nemeth Symbol
Rhombus		Tactile graphic
Right angle		N/A
Area and perimeter	N/A	Tactile graphics

## Nemeth Braille Code

**MARYLAND'S COLLEGE AND CAREER-READY STANDARDS FOR UNIFIED ENGLISH BRAILLE**




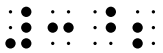

Mixed numeral with diagonal fraction bar	$4\frac{3}{4}$	
Circle		
Triangle		
Diamond		
Square		
Star		
Rectangle		
Angle	$\angle$	
Angle ABC	$\angle ABC$	
Directly over indicator	N/A	
Line AB	 AB	
Line segment AB	 AB	
Ray AB	 AB	
Parallel	$\parallel$	
Perpendicular	$\perp$	

### Tactile Graphics

	Mathematical Sign	Nemeth Symbol
Point	$\bullet$	Tactile graphic
Angle	$\angle$	Tactile graphic
Line		Tactile graphic
Ray		Tactile graphic
Line segment		Tactile graphic

## Grade 5

### Nemeth Braille Code

	Mathematical Sign	Nemeth symbol
Set braces	{ }	
Brackets	[ ]	
Ordered pair	$(a, b)$	
Exponent (superscript)	$3^2$	
Baseline indicator	$2^2+3^2$	

### Tactile Graphics

	Mathematical Sign	Nemeth symbol
Coordinate grid (axis, origin)	N/A	Tactile graphics


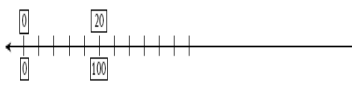
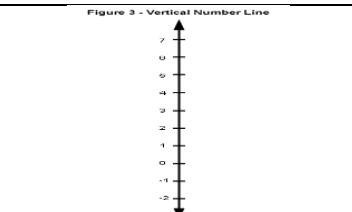
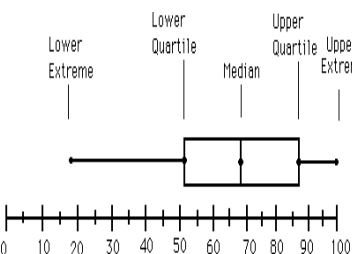


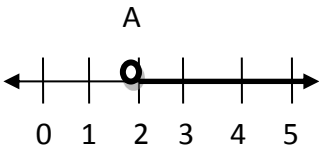
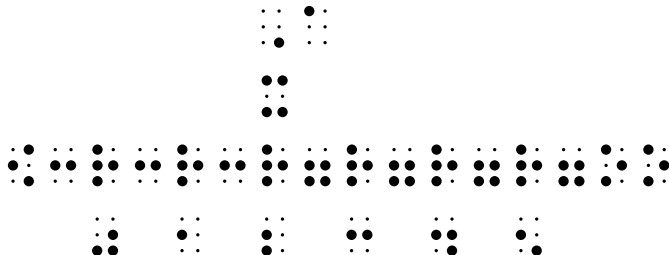
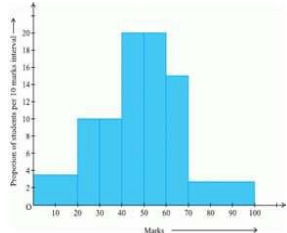
## Grade 6

### Nemeth Braille Code

	Mathematical Sign	Nemeth symbol
Not equal to	$\neq$	$\cdot\cdot\cdot\cdot\cdot\cdot$
Ratio	$2 : 4$	$\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot$
Percent	$\%$	$\cdot\cdot\cdot\cdot\cdot\cdot$
Absolute value of x	$ x $	$\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot$
Is less than or equal to	$\leq$	$\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot$
Is greater than or equal to	$\geq$	$\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot$
Negative number	$-(-3) = 3$	$\cdot$
Use of variable in expressions	$A=6s^2$	$\cdot$

### Tactile Graphics

	Mathematical Sign	Nemeth symbol
Tape diagram		Tactile graphic
Double number line diagrams		Nemeth Braille Code Number line
Vertical number line		Nemeth Braille Code number line
Box plot or Box and whisker plot		Nemeth Braille Code Number Line with tactile graphics for box and whiskers

<p>Number line with inequality</p>		<p>Axis line ⠠⠠      Bold axis line ⠠⠠⠠</p> <p>Open point ⠠⠠      Solid point ⠠⠠⠠</p> <p>Bold right arrow ⠠⠠⠠ ⠠⠠⠠</p> <p>Bold right arrow ⠠⠠⠠ ⠠⠠⠠</p> 
<p>Histogram</p>		<p>Nemeth Braille Code number line and tactile graphic for bars of data</p>

## Grade 7

### Nemeth Braille Code

	Mathematical Sign	Nemeth symbol
Measure of $\angle ABC$	$m\angle ABC$	$\mathop{\circlearrowleft}\nolimits$
Complex fraction indicators opening/closing with horizontal line	$\frac{\frac{3}{8}}{5}$	$\mathop{\circlearrowleft}\nolimits$
opening/closing with diagonal line	$\frac{2/3}{3/2}$	$\mathop{\circlearrowleft}\nolimits$
Repetend (horizontal modifying bar)	$3.\overline{333}$	$\mathop{\circlearrowleft}\nolimits$
Rectangle	N/A	$\mathop{\circlearrowleft}\nolimits$
Triangle	N/A	$\mathop{\circlearrowleft}\nolimits$
Is approximately equal to	$\approx$	$\mathop{\circlearrowleft}\nolimits$
Is congruent to	$\cong$	$\mathop{\circlearrowleft}\nolimits$
Is similar to	$\sim$	$\mathop{\circlearrowleft}\nolimits$
Triangle with vertices $A, B,$ and $C$	$\triangle ABC$	$\mathop{\circlearrowleft}\nolimits$
Circle	N/A	$\mathop{\circlearrowleft}\nolimits$
Greek letter indicator	N/A	$\mathop{\circlearrowleft}\nolimits$
Pi	$\pi$	$\mathop{\circlearrowleft}\nolimits$
Slope (using capital delta)	$\frac{\Delta y}{\Delta x}$	$\mathop{\circlearrowleft}\nolimits$

### Tactile Graphics

	Mathematical Sign	Nemeth symbol
Tree diagram	N/A	Tactile graphic

## Grade 8

## Nemeth Braille Code

	Mathematical Sign	Nemeth symbol
Principle square root of x	$\sqrt{x}$	
Index of radical	$(\sqrt[3]{8})^3 = 8$	
Negative exponent	$3^{-3}$	
Exponent in denominator	$\frac{1}{3^3}$	
A prime	$A'$	
A double prime	$A''$	
Transformational notation	$\angle A \rightarrow \angle A' \rightarrow \angle A''$	

## Tactile Graphics

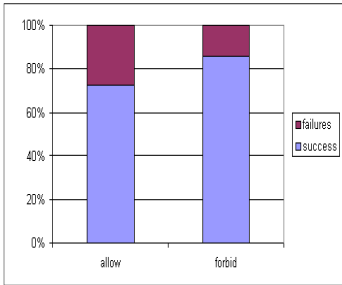
	Mathematical Sign	Nemeth symbol
Scatter plot	N/A	Tactile graphic
Line graph	N/A	Tactile graphic

# Algebra 1/Data Analysis

## Nemeth Braille Code


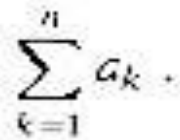
	Mathematical Sign	Nemeth symbol
Value of the function $f$ at $x$	$f(x)$	$\dots$
Exponent to the exponent	$\left(5^{\frac{1}{3}}\right)^3 = 5^{\left(\frac{1}{3}\right)(3)}$	$\dots$
Residual (italicized $e$ ) = observed value ( $y$ ) – predicted value (caret above $y$ )	$e = y - \hat{y}$	$\dots$
Sigma	$\Sigma = 0$	$\dots$
Average rate of change	$\text{average rate of change} = \frac{\Delta y}{\Delta x} = \frac{f(x+h) - f(x)}{h}$	$\dots$
Imaginary number	$i$	$\dots$
$p$ implies $q$	$p \Rightarrow q$	$\dots$
Proportional to	$x \propto y$	$\dots$
Infinity	$\infty$	$\dots$

## Tactile Graphics

	Mathematical Sign	Nemeth symbol
Segmented bar graph		Tactile graphic

## Algebra 2

### Nemeth Braille Code

	Mathematical Sign	Nemeth symbol
Arc with endpoints <i>A</i> and <i>B</i>		$\cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots$
Sine of <i>A</i>	$\sin A$	$\cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots$
Cosine <i>A</i>	$\cos A$	$\cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots$
Tangent of <i>A</i>	$\tan A$	$\cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots$
Logarithm	$(xy) = \log$	$\cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots$
Directly under indicator	$N/A$	$\cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots$
Subscript	$4_x$	$\cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots$
The summation $a_1 + a_2 + \dots + a_n$ .		$\cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots$
<i>n</i> factorial	$n!$	$\cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots$
Theta	$\theta$	$\cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots$
Empirical rule: $\mu$ is the mean of the distribution (Greek letter lower case mu) $\sigma$ is its standard deviation (Greek letter lower case sigma)	$\Pr(\mu - \sigma \leq x \leq \mu + \sigma) \approx 0.6827$	$\cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots$
Formula for density (Greek letter lower case rho)	$\rho = m/v$	$\cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots \cdots$

### Tactile Graphics

	Mathematical Sign	Nemeth symbol
NONE		

## Nemeth Braille Code

## Tactile Graphics

**MARYLAND'S COLLEGE AND CAREER-READY STANDARDS FOR UNIFIED ENGLISH BRAILLE**